

## **CHAPTER 6**

### **FUTURE DIRECTIONS IN THE LOOSAHATCHIE RIVER WATERSHED**

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#### **6.1. BACKGROUND.**

The Watershed Water Quality Management Plan serves as a comprehensive inventory of resources and stressors in the watershed, a recommendation for control measures, and a guide for planning activities in the next five-year watershed cycle and beyond. Water quality improvement will be a result of implementing both regulatory and nonregulatory programs.

In addition to the NPDES program, some state and federal regulations, such as the TMDL and ARAP programs, address point and nonpoint issues. Construction and MS4 stormwater rules (implemented under the NPDES program) are transitioning from Phase 1 to Phase 2. More information on stormwater rules may be found at: <http://www.state.tn.us/environment/wpc/stormh2o/MS4.htm>.

This Chapter addresses point and nonpoint source approaches to water quality problems in the Loosahatchie River Watershed as well as specific NPDES permittee information.

**6.2. COMMENTS FROM PUBLIC MEETINGS.** Watershed meetings are open to the public, and most meetings were represented by citizens who live in the watershed, NPDES permittees, business people, farmers, and local river conservation interests. Locations for meetings were frequently chosen after consulting with people who live and work in the watershed. Everyone with an interest in clean water is encouraged to be a part of the public meeting process. The times and locations of watershed meetings are posted at: <http://www.state.tn.us/environment/wpc/public.htm>.

**6.2.A. Year 1 Public Meeting.** The first Loosahatchie River Watershed public meeting was held April 14, 1997 in Bartlett City Hall. The goals of the meeting were to 1)present, and review the objectives of, the Watershed Approach, 2)introduce local, state, and federal agency and nongovernment organization partners, 3)review water quality monitoring strategies, and 4)solicit input from the public.

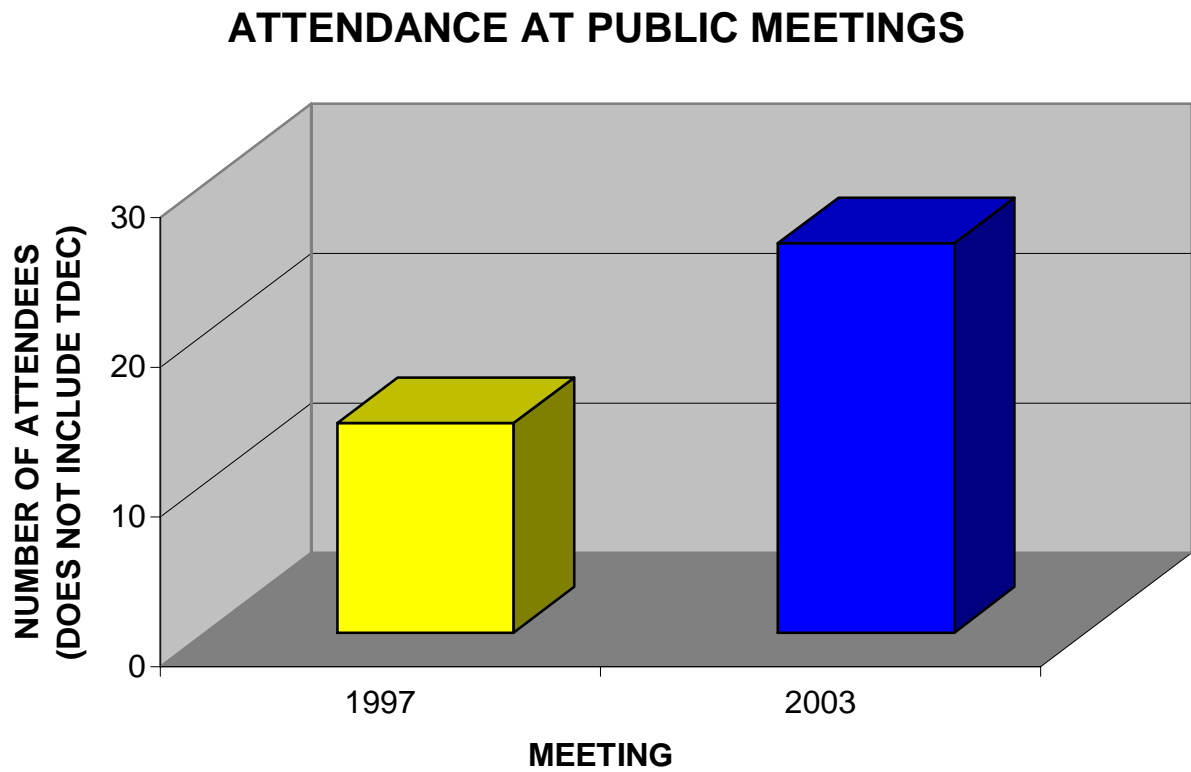
#### Major Concerns/EFO Comments

- ◆ Something needs to be done for urban BMPs similar to agricultural BMPs
- ◆ Lakeland STP has been in violation of their permit for years, yet they are allowed to continue to discharge
- ◆ TDEC needs to interact with other agencies
- ◆ The effect of the Watershed Approach on current permittees
- ◆ Developers and city planners need to work together for long range planning
- ◆ There is a need for public education about good environmental practices
- ◆ There is a need for consistency and fairness in issuing ARAP permits

**6.2.B. Year 5 Public Meeting.** The third scheduled Loosahatchie River Watershed public meeting was held October 7, 2003 at the Lakeland City Hall. The meeting featured six educational components:

- Overview of draft Watershed Water Quality Management Plan slide show
- Benthic macroinvertebrate samples and interpretation
- SmartBoard™ with interactive GIS maps
- “How We Monitor Streams” self-guided slide show
- “Why We Do Biological Sampling” self-guided slide show
- City of Lakeland display

In addition, citizens had the opportunity to make formal comments on the draft Watershed Water Quality Management Plan and to rate the effectiveness of the meeting.



*Figure 6-1. Attendance at Public Meetings in the Loosahatchie River Watershed.*



*Figure 6-2. In addition to the educational displays, plenty of time is allowed for questions and answers.*



*Figure 6-3. Interactions with partners, like the City of Lakeland shown here, are an important part of the public meeting and the Watershed Approach.*

### 6.3. APPROACHES USED.

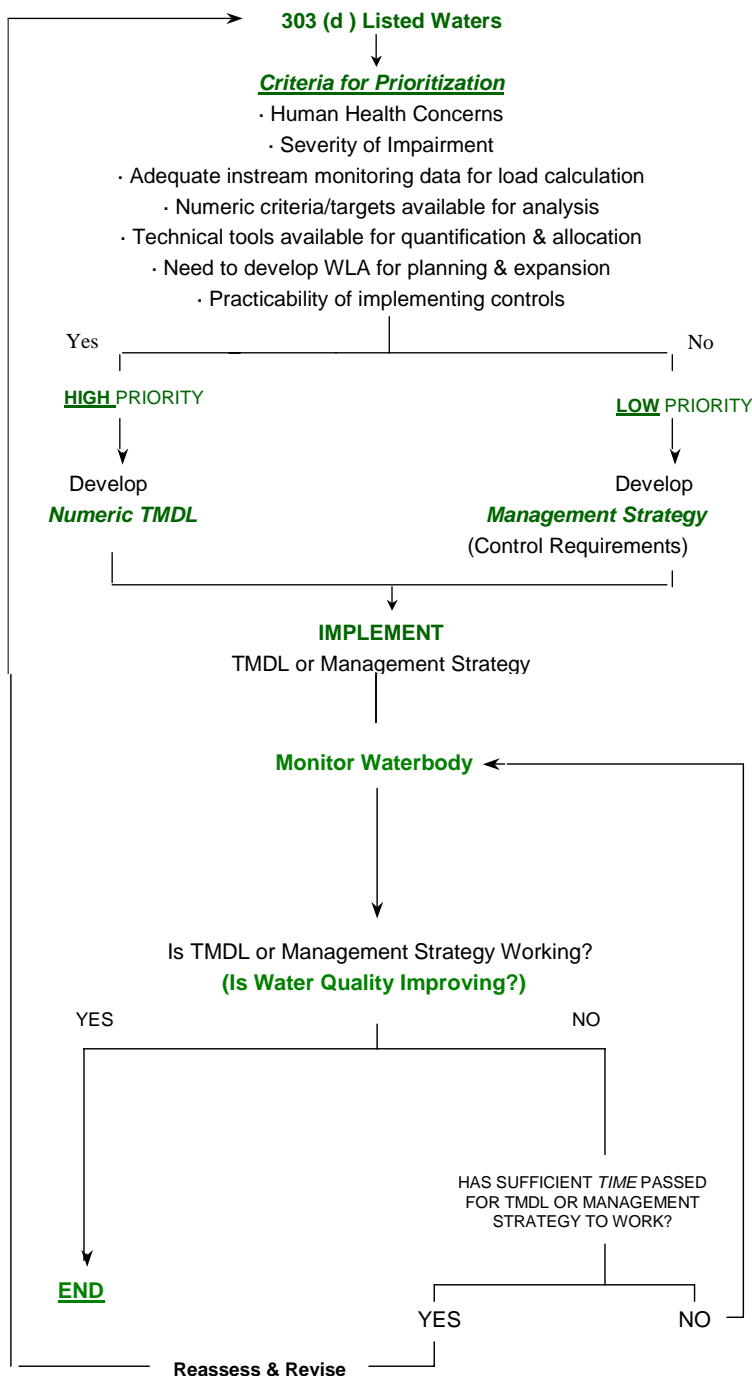
**6.3.A.** Point Sources. Point source contributions to stream impairment are primarily addressed by NPDES and ARAP permit requirements and compliance with the terms of the permits. Notices of NPDES and ARAP draft permits available for public comment can be viewed at <http://www.state.tn.us/environment/wpc/wpcppo/>. Discharge monitoring data submitted by NPDES-permitted facilities may be viewed at [http://www.epa.gov/enviro/html/pes/pes\\_query\\_java.html](http://www.epa.gov/enviro/html/pes/pes_query_java.html).

The purpose of the TMDL program is to identify remaining sources of pollution and allocate pollution control needs in places where water quality goals are still not being achieved. TMDL studies are tools that allow for a better understanding of load reductions necessary for impaired streams to return to compliance with water quality standards. More information about Tennessee's TMDL program may be found at: <http://www.state.tn.us/environment/wpc/tmdl.php>

Approved TMDL:

**Loosahatchie River, Cypress Creek, and Big Creek TMDL.** TMDL for fecal coliform in the Loosahatchie River Watershed approved November 13, 2001:  
<http://www.state.tn.us/environment/wpc/loosfec4.pdf>

TMDLs are prioritized for development based on many factors.



**Figure 6-4. Prioritization scheme for TMDL Development.**



### **6.3.B. Nonpoint Sources**

Common nonpoint sources of pollution include urban runoff, riparian vegetation removal, and inappropriate land development, agricultural, and road construction practices. Since nonpoint pollution exists essentially everywhere rain falls and drains to a stream, existing point source regulations can have only a limited effect, so other measures are necessary.

There are several state and federal regulations that address some of the contaminants impacting waters in the Loosahatchie River watershed. Most of these are limited to only point sources: a pipe or ditch. Often, controls of point sources are not sufficient to protect waters, so other measures are necessary. Some measures include voluntary efforts by landowners and volunteer groups, while others may involve new regulations. Many agencies, including the Tennessee Department of Agriculture and NRCS, offer financial assistance to landowners for corrective actions (like Best Management Practices) that may be sufficient for recovery of impacted streams. Many nonpoint problems will require an active civic involvement at the local level geared towards establishment of improved zoning guidelines, building codes, streamside buffer zones and greenways, and general landowner education.

The following text describes certain types of impairments, causes, suggested improvement measures, and control strategies. The suggested measures and streams are only examples and efforts should not be limited to only those streams and measures mentioned.

#### **6.3.B.i. Sedimentation.**

**6.3.B.i.a. From Construction Sites.** Construction activities have historically been considered “nonpoint sources.” In the late 1980’s, EPA designated them as being subject to NPDES regulation if more than 5 acres are disturbed. In the spring of 2003, that threshold became 1 acre. The general permit issued for such construction sites sets out conditions for maintenance of the sites to minimize pollution from stormwater runoff, including requirements for installation and inspection of erosion controls. Also, the general permit imposes more stringent inspection and self-monitoring requirements on sites in the watershed of streams that are already impaired due to sedimentation. Examples in the Loosahatchie River Watershed are Big Creek and Beaver Creek. Regardless of the size, no construction site is allowed to cause a condition of pollution.

Construction sites within a sediment-impaired watershed may also have higher priority for inspections by WPC personnel, and are likely to have enforcement actions for failure to control erosion. The downstream portion of the Loosahatchie River is severely impaired by siltation. Construction activities in the watershed may, therefore, be monitored more closely.



**6.3.B.i.b. From Channel and/or Bank Erosion.** Since the Loosahatchie River was channelized many years ago and is in an area that has some crop production, erosion and riparian destruction is a significant source of stream impairment. Due to past channelization, the Loosahatchie River and many of its major tributaries (Big Creek, Beaver Creek, West Beaver Creek and others) have sections of unstable channels that are incising at a rapid rate. Several agencies are working to stabilize portions of stream banks. These include NRCS and University of Tennessee. Other methods or controls that might be necessary to address common problems are:

*Strategies:*

- Re-establishment of bank vegetation
- Better community planning for the impacts of development on small streams, especially development in growing areas (examples: Oliver Creek, Scotts Creek, Buckhead Creek, and Clear Creek Canal).
- Restrictions requiring post-construction run-off rates to be no greater than pre-construction rates in order to avoid in-channel erosion, (example: Oliver Creek).
- Prohibition on clearing of stream and ditch banks. *Note: Permits may be required for any work along streams.*
- Additional restriction to road and utilities crossings of streams.
- Restrictions on the use of off-highway vehicles on stream banks and in stream channels.

**6.3.B.i.c. From Agriculture and Silviculture.** Even though there is an exemption in the Water Quality Control Act which states that normal agricultural and silvicultural practices which do not result in a point source discharge do not have to obtain a permit, efforts are being made to address impacts due to these practices.

The agriculture community has strived to protect the soil from wind and soil erosion. Agencies such as the Natural Resources Conservation Service (NRCS), the University of Tennessee Agricultural Extension Service, and the Tennessee department of Agriculture have worked to identify better ways of farming, to educate the farmers, and to install the methods that address the sources of some of the impacts due to agriculture. Cost sharing is available for many of these measures. A study of the Beaver Creek Watershed was conducted that addressed some of these issues. The U.S. Geological Survey Open-File Report 95-156, *Collection of Short Papers on the Beaver Creek Watershed Study in West Tennessee, 1989-94*, compiled by W. Harry Doyle, Jr. and Eva G. Baker, may be helpful in this regard.

**6.3.B.ii. Pathogen Contamination.**

Possible sources of pathogens are inadequate or failing septic tank systems, overflows or breaks in public sewer collection systems, poorly disinfected discharges from sewage treatment plants, and fecal matter in streams and storm drains due to pets, livestock and wildlife. Permits issued by the Division of Water Pollution Control regulate discharges from point sources and require adequate control for these sources. Individual homes are required to have subsurface, on-site treatment (i.e., septic tank and field lines) if public sewers are not available. Septic tank and field lines are regulated by the Division

of Ground Water Protection within Memphis Environmental Assistance Center (in Fayette and Tipton Counties) and delegated county health departments (Shelby County). In addition to discharges to surface waters, businesses may employ either subsurface or surface disposal of wastewater. The Division of Water Pollution Control regulates surface disposal.

Other measures that may be necessary to control pathogens are:

*Voluntary activities*

- Off-channel watering of livestock.
- Limiting livestock access to streams.
- Proper management of animal waste from feeding operations.

*Enforcement strategies*

- Greater enforcement of regulations governing on-site wastewater treatment.
- Timely and appropriate enforcement for non-complying sewage treatment plants, large and small, and their collection systems.
- Identification of Concentrated Animal Feeding Operations not currently permitted, and enforcement of current regulations.

*Additional strategies*

- Restrict development in areas where sewer is not available and treatment by subsurface disposal is not an option due to poor soils, floodplains, or high water tables.
- Develop and enforce leash laws and controls on pet fecal material. The city of Memphis already has a program in place as part of their MS4 implementation plan.
- Greater efforts by sewer utilities to identify leaking lines or overflowing manholes.

**6.3.B.iii. Excessive Nutrients and/or Dissolved Oxygen Depletion.**

These two impacts are usually listed together because high nutrients often contribute to low dissolved oxygen within a stream. Since nutrients often have the same source as pathogens, the measures previously listed can also address many of these problems. Elevated nutrient loadings are also often associated with urban runoff from impervious surfaces and from fertilized lawns and croplands.

Other sources of nutrients can be addressed by:

*Voluntary activities*

- Educate homeowners and lawn care companies in the proper application of fertilizers.
- Encourage landowners, developers, and builders to leave stream buffer zones (examples of streams that could benefit are mainstem Loosahatchie River and West Beaver Creek). Streamside vegetation can filter out many nutrients and other pollutants before they reach the stream. These riparian buffers are also vital along livestock pastures.
- Use grassed drainage ways that can remove fertilizer before it enters streams.

- Use native plants for landscaping since they don't require as much fertilizer and water.

Physical changes to streams can prevent them from providing enough oxygen to biodegrade the materials that are naturally present. A few additional actions can address this problem:

- Maintain shade over a stream. Cooler water can hold more oxygen and retard the growth of algae. As a general rule, all stream channels suffer from some canopy removal.
- Discourage impoundments. Ponds and lakes do not aerate water. *Note: Permits may be required for any work on a stream, including impoundments.*

#### 6.3.B.iv. Toxins and Other Materials.

Many materials enter our streams due to apathy, or lack of civility or knowledge by the public. Litter in roadside ditches, garbage bags tossed over bridge railings, paint brushes washed off over storm drains, and oil drained into ditches are all examples of pollution in streams. Some can be addressed by:

##### *Voluntary activities*

- Providing public education.
- Painting warnings on storm drains that connect to a stream.
- Sponsoring community clean-up days.
- Landscaping of public areas.
- Encouraging public surveillance of their streams and reporting of dumping activities to their local authorities.

##### *Needing regulation*

- Prohibition of illicit discharges to storm drains.
- Litter laws and strong enforcement at the local level.

#### 6.3.B.v. Habitat Alteration.

The alteration of the habitat within a stream can have severe consequences. Whether it is the removal of the vegetation providing a root system network for holding soil particles together, the release of sediment, which increases the bed load and covers benthic life and fish eggs, the removal of gravel bars, "cleaning out" creeks with heavy equipment, or the impounding of the water in ponds and lakes, many alterations impair the use of the stream for designated uses. Habitat alteration also includes the draining or filling of wetlands.

Measures that can help address this problem are:

##### *Voluntary activities*

- Sponsoring litter pickup days to remove litter that might enter streams.
- Organizing stream cleanups removing trash, limbs and debris before they cause blockage.

- Avoiding use of heavy equipment to “clean out” streams.
- Planting vegetation along streams to stabilize banks and provide habitat.
- Encouraging developers to avoid extensive culverts in streams.

*Current regulations*

- Restrict modification of streams by such means as culverting, lining, or impounding.
- Require mitigation for impacts to streams and wetlands when modifications are allowed.

*Additional Enforcement*

- Increased enforcement may be needed when violations of current regulations occur.

#### **6.4. PERMIT REISSUANCE PLANNING**

Under the *Tennessee Water Quality Control Act*, municipal, industrial and other dischargers of wastewater must obtain a permit from the Division. Approximately 1,700 permits have been issued in Tennessee under the federally delegated National Pollutant Discharge Elimination System (NPDES). These permits establish pollution control and monitoring requirements based on protection of designated uses through implementation of water quality standards and other applicable state and federal rules.

The following three sections provide specific information on municipal, industrial, and water treatment plant active permit holders in the Loosahatchie River Watershed. Compliance information was obtained from EPA's Permit Compliance System (PCS). All data was queried for a five-year period between January 1, 2001 and December 31, 2006. PCS can be accessed publicly through EPA's Envirofacts website. This website provides access to several EPA databases to provide the public with information about environmental activities that may affect air, water, and land anywhere in the United States:

[http://www.epa.gov/enviro/html/ef\\_overview.html](http://www.epa.gov/enviro/html/ef_overview.html)

Stream Segment information, including designated uses and impairments, are described in detail in Chapter 3, *Water Quality Assessment of the Loosahatchie River*.

## 6.4.A. Municipal Permits

### TN0021351 Arlington Lagoon #1

**Discharger rating:** Major  
**City:** Arlington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 7/31/02  
**Expiration Date:** 7/31/07  
**Receiving Stream(s):** Loosahatchie River at mile 30.7  
**HUC-12:** 080102090204  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Lagoon system

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
BOD5	All Year	208	lb/day	MAvg Load	Weekly	Grab	Effluent
BOD5	All Year	35	mg/L	WAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	38.5	mg/L	DMax Conc	Weekly	Grab	Effluent
BOD5	All Year	321	lb/day	DMax Load	Weekly	Grab	Effluent
BOD5	All Year	25	mg/L	MAvg Conc	Weekly	Grab	Effluent
BOD5	All Year		mg/L	MAvg Conc	Weekly	Composite	Influent (Raw Sewage)
BOD5	All Year	292	lb/day	DMax Load	Weekly	Grab	Effluent
BOD5	All Year		mg/L	DMax Conc	Weekly	Composite	Influent (Raw Sewage)
Bypass of Treatment (occurrences)	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
D.O.	All Year	2	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	2.2	Percent	DMin Conc	Continuous	Composite	Influent (Raw Sewage)
IC25 7day Fathead Minnows	All Year	2.2	Percent	DMin Conc	Continuous	Composite	Influent (Raw Sewage)
Overflow Use Occurences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.9	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	97	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	809	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	725	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	87	mg/L	MAvg Conc	Weekly	Grab	Effluent

Table 6-1a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS	All Year	621	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	74.5	mg/L	WAvg Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-1b.**

**Tables 6-1a and b. Permit Limits for Arlington Lagoon.**

**Compliance History:**

The following numbers of numbers of exceedences were noted in PCS:

- 30 BOD
- 18 TSS
- 10 Fecal coliform
- 3 Escherichia coli.
- 2 Overflows
- 2 bypasses.

**EFO Comments:**

This lagoon will be taken offline and replaced by the new Arlington STP. In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.



### TN0078603 Arlington STP

**Discharger rating:** Major  
**City:** Arlington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 8/31/05  
**Expiration Date:** 7/31/07  
**Receiving Stream(s):** Loosahatchie River at mile 29.2  
**HUC-12:** 080102090204  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** New Sequencing Batch Reactor treatment facility with ultraviolet disinfecting to replace existing treatment lagoon

<b>Segment</b>	TN08010209004_1000
<b>Name</b>	Loosahatchie River
<b>Size</b>	10
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	2004
<b>Designated Uses</b>	Recreation (Supporting), Irrigation (Supporting), Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Physical substrate habitat alterations
<b>Sources</b>	Channelization

**Table 6-2. Stream Segment Information for Arlington STP.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	7.5	mg/L	WAvg Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	All Year	156	lb/day	WAvg Load	Weekdays	Composite	Effluent
Ammonia as N (Total)	All Year	104	lb/day	MAvg Load	Weekdays	Composite	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	All Year	208	lb/day	DMax Load	Weekdays	Composite	Effluent
BOD % removal	All Year	40	Percent	DMin % Removal	Weekdays	Calculated	% Removal
Bypass of Treatment (occurrences)	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	Percent	DMin % Removal	Weekdays	Calculated	Effluent
CBOD5	All Year	25	mg/L	MAvg Conc	Weekdays	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	Weekdays	Composite	Influent (Raw Sewage)
CBOD5	All Year		mg/L	DMax Conc	Weekdays	Composite	Influent (Raw Sewage)
CBOD5	All Year	40	mg/L	DMax Conc	Weekdays	Composite	Effluent
CBOD5	All Year	521	lb/day	MAvg Load	Weekdays	Composite	Effluent
CBOD5	All Year	35	mg/L	WAvg Conc	Weekdays	Composite	Effluent

**Table 6-3a.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
CBOD5	All Year	730	lb/day	WAvg Load	Weekdays	Composite	Effluent
D.O.	All Year	5	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Weekdays	Grab	Effluent
Escherichia coli	All Year	941	#/100mL	DMax Conc	3/Week	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
IC25 7day Ceriodaphnia Dubia	All Year	5.4	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	5.4	Percent	DMin Conc	Quarterly	Composite	Effluent
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	625	lb/day	MAvg Load	Weekdays	Composite	Effluent
TSS	All Year	834	lb/day	WAvg Load	Weekdays	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	Weekdays	Composite	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekdays	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	Weekdays	Composite	Intake
TSS	All Year		mg/L	MAvg Conc	Weekdays	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent

**Table 6-3b.**

**Tables 6-3a- b. Permit Limits for Arlington STP.**

**Compliance History:**

This facility will be operational in 2007.

**EFO EFO Comments:**

Arlington - the new plant will be operational in the spring of 2007. The existing lagoon will be phased out and closed.

In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.

### TN0066800 Bartlett STP No. 1

**Discharger rating:** Major  
**City:** Bartlett  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 1/31/02  
**Expiration Date:** 1/31/07  
**Receiving Stream(s):** Loosahatchie River Mile 18.4  
**HUC-12:** 080102090204  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Lagoon system

<b>Segment</b>	TN08010209004_0100
<b>Name</b>	Black Ankle Creek
<b>Size</b>	27
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	1990
<b>Designated Uses</b>	Livestock Watering and Wildlife (Supporting), Fish and Aquatic Life (Non-Supporting), Recreation (Supporting), Irrigation (Supporting)
<b>Causes</b>	Phosphate, Oxygen, Dissolved
<b>Sources</b>	Non-irrigated Crop Production

**Table 6-4. Stream Segment Information for Bartlett STP No. 1.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	183	lb/day	DMax Load	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	10	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	5	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	92	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
CBOD5	All Year	30	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	459	lb/day	DMax Load	3/Week	Composite	Effluent
CBOD5	All Year	25	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year	367	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	20	mg/L	DMin Conc	3/Week	Composite	Effluent
D.O.	All Year	3	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	3/Week	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	5.9	Percent	DMin Conc	Quarterly	Composite	Effluent

**Table 6-5a.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
IC25 7day Fathead Minnows	All Year	5.9	Percent	DMin Conc	Quarterly	Composite	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	734	lb/day	DMax Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year	550	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	WAvG Conc	3/Week	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-5b.**

**Tables 6-5a -b. Permit Limits for Bartlett STP No. 1.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

- 1 Ammonia
- 1 Settleable Solids
- 2 TSS
- 3 Fecal coliform
- 1 overflow

**EFO EFO Comments:**

Both Bartlett facilities will stay in use. Bartlett #2 will be upgraded, but not in the near future. Bartlett #1 will stay and they have room at the site to add more oxidation cells when needed for future expansion.

In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.

## TN0068543 Bartlett STP #2

**Discharger rating:** Minor  
**City:** Bartlett  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 12/31/02  
**Expiration Date:** 3/31/07  
**Receiving Stream(s):** Loosahatchie River at mile 24  
**HUC-12:** 080102090204  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Complete mix aerated lagoon followed by disinfection

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
CBOD % Removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
CBOD5	All Year	60	mg/L	DMax Conc	Weekly	Grab	Effluent
CBOD5	All Year	209	lb/day	DMax Load	Weekly	Grab	Effluent
CBOD5	All Year	209	lb/day	DMax Load	Weekly	Composite	Effluent
CBOD5	All Year	167	lb/day	MAvg Load	Weekly	Grab	Effluent
CBOD5	All Year	50	mg/L	MAvg Conc	Weekly	Grab	Effluent
CBOD5	All Year	40	mg/L	DMin Conc	Weekly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	1.4	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	459	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS	All Year	417	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	MAvg Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-6. Permit Limits for Bartlett STP No. 2.**

### Compliance History:

The following numbers of exceedences were noted in PCS:

- 8 Fecal coliform
- 5 Escherichia coli

### EFO Comments:

Both Bartlett facilities will stay in use. Bartlett #2 will be upgraded, but not in the near future. Bartlett #1 will stay and they have room at the site to add more oxidation cells when needed for future expansion. In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River.

This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.

**TN0056863 Camellia Homes Inc**

**Discharger rating:** Minor  
**City:** Atoka  
**County:** Tipton  
**EFO Name:** Memphis  
**Issuance Date:** 6/28/02  
**Expiration Date:** 6/30/07  
**Receiving Stream(s):** Unnamed tributary at mile 0.7 to Big Creek at mile 22.1  
**HUC-12:** 080102090401  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Complete mix aerated lagoon followed by disinfection

<b>Segment</b>	TN08010209021_3000
<b>Name</b>	Big Creek
<b>Size</b>	35.1
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Livestock Watering and Wildlife (Not Assessed), Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-7. Stream Segment Information for Camellia Homes.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	1.7	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	0.85	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	3.5	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	1.75	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.02	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-8. Permit Limits for Camellia Homes.**

**EFO Comments:**

Small aerated lagoon. Has tight limits, no expansion projected.

### TN0023833 E.E. Jeter School

**Discharger rating:** Minor  
**City:** Millington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 4/30/02  
**Expiration Date:** 4/30/07  
**Receiving Stream(s):** Unnamed tributary at mile 4.3 to Big Creek at mile 2.8  
**HUC-12:** 080102090403  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	2	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-9. Permit Limits for E.E. Jeter School.**

**EFO Comments:**

Small package plant. No expansion projected.



### TN0062138 Galloway STP

**Discharger rating:** Minor  
**City:** Millington  
**County:** Fayette  
**EFO Name:** Memphis  
**Issuance Date:** 4/30/02  
**Expiration Date:** 4/30/07  
**Receiving Stream(s):** Loosahatchie River mile 34.7  
**HUC-12:** 080102090201  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Lagoon system.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
BOD5	All Year	70	mg/L	DMax Conc	Weekly	Grab	Effluent
BOD5	All Year	89	lb/day	DMax Load	Weekly	Grab	Effluent
BOD5	All Year	45	mg/L	MAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	65	mg/L	WAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	62	lb/day	MAvg Load	Weekly	Grab	Effluent
Bypass of Treatment (occurrences)	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Overflow Use Occurences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Overflow Use Occurences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	1	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	138	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	165	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	MAvg Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-10. Permit Limits for Galloway STP.**

#### **Compliance History:**

The following numbers of exceedences were noted in PCS:

- 1 TSS
- 42 BOD
- 3 pH
- 46 TSS
- 1 Fecal coliform
- 8 Escherichia coli.

***EFO Comments:***

No expansion projected in the near future. In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Gallaway, Somerville, Lakeland, and Bartlett.

### TN0074012 Lakeland Lagoon

**Discharger rating:** Minor  
**City:** Lakeland  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 4/30/02  
**Expiration Date:** 4/30/07  
**Receiving Stream(s):** Loosahatchie River mile 24.1  
**HUC-12:** 080102090204  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Lagoon system

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	104	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	20	mg/L	DMax Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	83	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	10	mg/L	WAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	63	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	42	lb/day	MAvg Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	15	mg/L	MAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	30	mg/L	DMax Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	125	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	20	mg/L	WAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	25	mg/L	MAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	83	lb/day	MAvg Load	Weekly	Composite	Effluent
CBOD % Removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
CBOD5	Summer	60	mg/L	DMax Conc	Weekly	Grab	Effluent
CBOD5	Summer	250	lb/day	DMax Load	Weekly	Grab	Effluent
CBOD5	Summer	208	lb/day	DMax Load	Weekly	Grab	Effluent
CBOD5	Summer	40	mg/L	DMin Conc	Weekly	Grab	Effluent
CBOD5	Summer	167	lb/day	MAvg Load	Weekly	Grab	Effluent
CBOD5	Summer	50	mg/L	MAvg Conc	Weekly	Grab	Effluent
CBOD5	Winter	45	mg/L	DMax Conc	Weekly	Grab	Effluent
CBOD5	Winter	30	mg/L	DMin Conc	Weekly	Grab	Effluent
CBOD5	Winter	40	mg/L	MAvg Conc	Weekly	Grab	Effluent
CBOD5	Winter	167	lb/day	DMax Load	Weekly	Grab	Effluent
CBOD5	Winter	188	lb/day	DMax Load	Weekly	Grab	Effluent
CBOD5	Winter	125	lb/day	MAvg Load	Weekly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Composite	Effluent
TRC	All Year	1.4	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	500	lb/day	DMax Load	Weekly	Grab	Effluent

Table 6-11a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS	All Year	459	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	417	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	WAv Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-11b.**

**Table 6-11a-b. Permit Limits for Lakeland Lagoon.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

- 38 Ammonia
- 6 Chlorine
- 2 CBOD
- 4 Fecal coliform
- 4 Escherichia coli
- 8 overflows

**Enforcement:**

Agreed Order #02-0090 - City of Lakeland

Database notes: Assessed penalty and compliance schedule based on self-reported NPDES exceedences.

**EFO Comments:**

Lakeland is building their new Sequence Batch Reactor STP and it should be operational the fall of 2007. The lagoon will be used for sludge digestion.

In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.

### TN0078255 Lakeland STP

**Discharger rating:** Major  
**City:** Lakeland  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 5/31/06  
**Expiration Date:** 7/31/07  
**Receiving Stream(s):** Loosahatchie River mile 24.1  
**HUC-12:** 080102090204  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Lagoon system.

<b>Segment</b>	TN08010209002_2000
<b>Name</b>	Loosahatchie River
<b>Size</b>	8.2
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	1990
<b>Designated Uses</b>	Recreation (Non-Supporting), Irrigation (Supporting), Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Physical substrate habitat alterations, Sedimentation/Siltation, Escherichia coli
<b>Sources</b>	Channelization, Site Clearance (Land Development or Redevelopment), Grazing in Riparian or Shoreline Zones

**Table 6-12. Stream Segment Information for Lakeland STP.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	7.5	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	188	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	281	lb/day	WAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD5	All Year	25	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year	938	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	40	Percent	DMin % Removal	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	1314	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	All Year	40	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	All Year	35	mg/L	WAvg Conc	3/Week	Composite	Effluent
D.O.	All Year	5	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Escherichia coli	All Year	941	#/100mL	DMax Conc	3/Week	Grab	Effluent

**Table 6-13a.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
IC25 7day Ceriodaphnia Dubia	All Year	10.8	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	10.8	Percent	DMin Conc	Quarterly	Composite	Effluent
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	0.2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year	1501	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year	40	Percent	DMin % Removal	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	1126	lb/day	MAvg Load	3/Week	Composite	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent

**Table 6-13b.**

**Tables 6-13a- b. Permit Limits for Lakeland STP.**

**Compliance History:**

New System to be operational Fall of 2007.

**EFO Comments:**

Lakeland is building their SBR and it should be operational the fall of 2007. The lagoon will be used for sludge digestion.

In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.

### TN0065277 Mallard Ridge Mobile Estates

**Discharger rating:** Minor  
**City:** Drummonds  
**County:** Tipton  
**EFO Name:** Memphis  
**Issuance Date:** 3/28/02  
**Expiration Date:** 3/31/07  
**Receiving Stream(s):** Mile 0.4 of an unnamed tributary to North Fork Creek at mile 4.7  
**HUC-12:** 080102090402  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Lagoon system

<b>Segment</b>	TN08010209021_0300
<b>Name</b>	North Fork Creek
<b>Size</b>	37.6
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	2004
<b>Designated Uses</b>	Fish and Aquatic Life (Non-Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Sedimentation/Siltation, Oxygen, Dissolved, Physical substrate habitat alterations
<b>Sources</b>	Non-irrigated Crop Production, Channelization

**Table 6-14. Stream Segment Information for Mallard Ridge Mobile Estates.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	1.6	mg/L	DMax Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	Summer	0.8	mg/L	MAvg Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	Winter	3.5	mg/L	DMax Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	Winter	1.75	mg/L	MAvg Conc	Monthly	Grab	Effluent
CBOD5	Summer	17	mg/L	DMax Conc	Monthly	Grab	Effluent
CBOD5	Summer	8.5	mg/L	MAvg Conc	Monthly	Grab	Effluent
CBOD5	Winter	24	mg/L	DMax Conc	Monthly	Grab	Effluent
CBOD5	Winter	12	mg/L	MAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Monthly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.02	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-15. Permit Limits for Mallard Ridge Mobile Estates.**

**EFO Comments:**

Small lagoon, no discharge



### TN0026620 Mason STP

**Discharger rating:** Minor  
**City:** Mason  
**County:** Tipton  
**EFO Name:** Memphis  
**Issuance Date:** 11/27/02  
**Expiration Date:** 6/28/07  
**Receiving Stream(s):** East Beaver Creek at mile 6.8  
**HUC-12:** 080102090301  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Lagoon system

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	15	mg/L	MAvg Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	All Year	14	lb/day	MAvg Load	Monthly	Grab	Effluent
BOD % removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
BOD5	All Year	55	mg/L	DMax Conc	Weekly	Grab	Effluent
BOD5	All Year	50	lb/day	DMax Load	Weekly	Grab	Effluent
BOD5	All Year	46	lb/day	DMax Load	Weekly	Grab	Effluent
BOD5	All Year	41	lb/day	MAvg Load	Weekly	Grab	Effluent
BOD5	All Year	50	mg/L	WAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	45	mg/L	MAvg Conc	Weekly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	1/Discharge	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.13	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	115	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	92	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	105	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	101	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	MAvg Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-16. Permit Limits for Mason STP.**

#### **Compliance History:**

The following numbers of exceedences were noted in PCS:

- 13 Ammonia
- 18 BOD
- 20 TSS
- 1 Fecal coliform
- 1 Escherichia coli.

***EFO Comments:***

In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.

### TN0026361 Memphis-Chapel Hill S.D. STP

**Discharger rating:** Minor  
**City:** Mason  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 6/28/02  
**Expiration Date:** 6/30/07  
**Receiving Stream(s):** Mile 0.2 of an unnamed stream to mile 2.1 of an unnamed tributary to Crooked Creek at mile 3.0  
**HUC-12:** 080102090401  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration

<b>Segment</b>	TN08010209021_0500
<b>Name</b>	Crooked Creek Canal
<b>Size</b>	31.21
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	2004
<b>Designated Uses</b>	Fish and Aquatic Life (Non-Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Oxygen, Dissolved, Physical substrate habitat alterations
<b>Sources</b>	Non-irrigated Crop Production, Channelization

**Table 6-17. Stream Segment Information for Memphis-Chapel Hill S.D. STP.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-18. Permit Limits for Memphis-Chapel Hill S.D. STP.**

#### **EFO EFO Comments:**

No projected growth. Small package plant will connect to Memphis within the next 5-10 years.

## TN0021067 Millington STP #2

**Discharger rating:** Major  
**City:** Millington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 6/30/02  
**Expiration Date:** 6/30/07  
**Receiving Stream(s):** Big Creek  
**HUC-12:** 080102090402  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Dual circular oxidation ditches with clarifiers to sand filters with chlorine contact and post aeration. Sludge is held in a lagoon until land applied by injection.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	1.7	mg/L	DMax Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	Summer	63	lb/day	DMax Load	Weekdays	Composite	Effluent
Ammonia as N (Total)	Summer	1.3	mg/L	MAvg Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	Summer	41	lb/day	MAvg Load	Weekdays	Composite	Effluent
Ammonia as N (Total)	Summer	0.85	mg/L	WAvg Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	Winter	3.5	mg/L	DMax Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	Winter	1.75	mg/L	WAvg Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	Winter	85	lb/day	MAvg Load	Weekdays	Composite	Effluent
Ammonia as N (Total)	Winter	2.6	mg/L	MAvg Conc	Weekdays	Composite	Effluent
Ammonia as N (Total)	Winter	125	lb/day	DMax Load	Weekdays	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	Percent	DMin % Removal	Weekdays	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	Weekdays	Calculated	% Removal
CBOD5	All Year	20	mg/L	DMax Conc	Weekdays	Composite	Effluent
CBOD5	All Year	10	mg/L	DMin Conc	Weekdays	Composite	Effluent
CBOD5	All Year	15	mg/L	MAvg Conc	Weekdays	Composite	Effluent
CBOD5	All Year	726	lb/day	DMax Load	Weekdays	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	Weekdays	Composite	Influent (Raw Sewage)
CBOD5	All Year		mg/L	MAvg Conc	Weekdays	Composite	Influent (Raw Sewage)
CBOD5	All Year	484	lb/day	MAvg Load	Weekdays	Composite	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekdays	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent

**Table 6-19a.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
Nitrogen Total (as N)	Summer		mg/L	MAvg Conc	2/Month	Composite	Effluent
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Phosphorus, Total	Summer		mg/L	MAvg Conc	2/Month	Composite	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Composite	Effluent
TRC	All Year	0.026	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekdays	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	Weekdays	Composite	Influent (Raw Sewage)
TSS	All Year	1935	lb/day	DMax Load	Weekdays	Composite	Effluent
TSS	All Year	40	mg/L	MAvg Conc	Weekdays	Composite	Effluent
TSS	All Year	1451	lb/day	MAvg Load	Weekdays	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	Weekdays	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	WAvg Conc	Weekdays	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	Weekdays	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	Weekdays	Calculated	% Removal
pH	All Year	8.5	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-19b.**

**Tables 6-19a-b. Permit Limits for Millington STP #2.**

**Compliance History:**

- 1 overflow
- 1 bypass

**EFO Comments:**

According to their last inspection report that Eddy Bouzeid did in 2005, the facility was in very good shape, well maintained, equipment calibrated. No expansion projected.

### TN0023795 Northwest School

**Discharger rating:** Minor  
**City:** Mason  
**County:** Fayette  
**EFO Name:** Memphis  
**Issuance Date:** 6/30/06  
**Expiration Date:** 4/30/07  
**Receiving Stream(s):** Unnamed tributary at mile 1.8, which enters Beaver Creek at mile 3.6  
**HUC-12:** 080102090301  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Lagoon

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	Monthly	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	Monthly	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	2/Week	Grab	Effluent
Escherichia coli	All Year	941	#/100mL	DMax Conc	Monthly	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Flow	All Year		MGD	MAvg Load	2/Week	Instantaneous	Effluent
Flow	All Year		MGD	DMax Load	2/Week	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	2/Week	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-20. Permit Limits for Northwest School.**

**EFO Comments:**

Small facultative lagoon. Permit modified to align pathogen-monitoring requirements with current water quality standards. No expansion projected.

### TN0077836 Oakland - Mechanical WWTP

**Discharger rating:** Major  
**City:** Oakland  
**County:** Fayette  
**EFO Name:** Memphis  
**Issuance Date:** 11/30/04  
**Expiration Date:** 11/29/07  
**Receiving Stream(s):** Loosahatchie River at mile 40.5  
**HUC-12:** 080102090201  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Treatment of municipal sewage via the sequencing batch reactor activated sludge process

<b>Segment</b>	TN08010209007_1000
<b>Name</b>	Loosahatchie River
<b>Size</b>	9.6
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	2004
<b>Designated Uses</b>	Fish and Aquatic Life (Non-Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Physical substrate habitat alterations
<b>Sources</b>	Channelization

**Table 6-21. Stream Segment Information for Oakland WWTP.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Winter	4	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	2	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	3	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	50	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	75	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD % Removal	All Year	40	Percent	MAvg % Removal	3/Week	Calculated	Effluent
CBOD5	All Year	85	Percent	MAvg Min	Monthly	Composite	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	375	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	All Year	15	mg/L	WAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year	250	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
Copper Total Recoverable	All Year	0.048	mg/L	DMax Conc	Weekly	Composite	Effluent
Copper Total Recoverable	All Year	0.863	lb/day	MAvg Load	Weekly	Composite	Effluent

**Table 6-22a.**



PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Copper Total Recoverable	All Year	0.034	mg/L	MAvg Conc	Weekly	Composite	Effluent
Copper Total Recoverable	All Year	1.189	lb/day	DMax Load	Weekly	Composite	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	941	#/100mL	DMax Conc	3/Week	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Weekly	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Continuous	Influent (Raw Sewage)
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	MAvg Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	MAvg Conc	Quarterly	Composite	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	0.08	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year	750	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year	1000	lb/day	WAvG Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	WAvG Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS % Removal	All Year	85	Percent	MAvg Min	Monthly	Calculated	Percent Removal
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	Percent Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-22b.**

**Tables 6-22a-b. Permit Limits for Oakland WWTP.**

**Compliance History:**

New system went into effect January 1, 2007.

**EFO Comments:**

New system went into effect January 1, 2007.

In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.

### TN0026573 Oakland - Lagoon

**Discharger rating:** Minor  
**City:** Oakland  
**County:** Fayette  
**EFO Name:** Memphis  
**Issuance Date:** 11/27/02  
**Expiration Date:** 11/26/07  
**Receiving Stream(s):** Unnamed tributary at mile 1.2 to Cypress Creek Canal at mile 10.1 to Loosahatchie River  
**HUC-12:** 080102090205  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Lagoon system

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	2	mg/L	DMax Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	4	mg/L	DMax Conc	Weekly	Grab	
Ammonia as N (Total)	All Year	5	lb/day	DMax Load	Weekly	Grab	
Ammonia as N (Total)	All Year	2.5	lb/day	DMax Load	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	2	mg/L	WAvg Conc	Weekly	Grab	
Ammonia as N (Total)	All Year	3	mg/L	MAvg Conc	Weekly	Grab	
Ammonia as N (Total)	All Year	2.5	lb/day	MAvg Load	Weekly	Grab	
Ammonia as N (Total)	All Year	1.3	lb/day	MAvg Load	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	1.5	mg/L	MAvg Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	1	mg/L	WAvg Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	Summer	1.9	lb/day	DMax Load	Weekly	Grab	Effluent
Ammonia as N (Total)	Winter	3.8	lb/day	DMax Load	Weekly	Grab	Effluent
Bypass of Treatment (occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
CBOD5	All Year	20	mg/L	DMax Conc	Weekly	Grab	Effluent
CBOD5	All Year	12.6	lb/day	MAvg Load	Weekly	Grab	Effluent
CBOD5	All Year	15	mg/L	MAvg Conc	Weekly	Grab	Effluent
CBOD5	All Year	25	lb/day	DMax Load	Weekly	Grab	Effluent
CBOD5	All Year	10	mg/L	DMin Conc	Weekly	Grab	Effluent
CBOD5	All Year	19	lb/day	DMax Load	Weekly	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.02	mg/L	DMax Conc	Weekdays	Grab	Effluent

Table 6-23a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS	All Year	45	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	57	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	50	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	40	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	38	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	30	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS % Removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	% Removal
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Tables 6-23b.**

**Tables 6-23a-b. Permit Limits for Oakland Lagoon.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

- 16 Dissolved Oxygen
- 93 Ammonia
- 43 TSS
- 3 Fecal coliform
- 1 Escherichia coli
- 1 pH
- 1 Settleable Solids
- 8 overflows

**EFO Comments:**

The City of Oakland will continue to use the Lagoon for sludge digestion. A minor modification to the permit has been granted per a request letter dated 1/18/06, for changing disinfection method from chlorination to UV system.

In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Somerville, Gallaway, Lakeland, and Bartlett.

### TN0056871 Pine Grove Mobile Home Park

**Discharger rating:** Minor  
**City:** Atoka  
**County:** Tipton  
**EFO Name:** Memphis  
**Issuance Date:** 7/31/02  
**Expiration Date:** 4/30/07  
**Receiving Stream(s):** Unnamed tributary at mile 5.0 to North Fork Creek at mile 2.8  
**HUC-12:** 080102090402  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Lagoon

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	2	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-24. Permit Limits for Pine Grove Mobile Home Park.**

**EFO Comments:**

Small facultative lagoon. No discharge.

### TN0061433 Pine Lake Cooperative

**Discharger rating:** Minor  
**City:** Atoka  
**County:** Fayette  
**EFO Name:** Memphis  
**Issuance Date:** 8/29/02  
**Expiration Date:** 8/30/07  
**Receiving Stream(s):** Unnamed tributary at mile 5.0 to North Fork Creek at mile 2.8  
**HUC-12:** 080102090205  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Lagoon

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	2	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-25. Permit Limits for Pine Lake Cooperative.**

**EFO Comments:**

Aerated lagoon. No plans for expansion.

### TN0067482 Pleasant Ridge Trailer Park

**Discharger rating:** Minor  
**City:** Millington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 11/27/02  
**Expiration Date:** 11/30/07  
**Receiving Stream(s):** Loosahatchie River at mile 20.9  
**HUC-12:** 080102090206  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Lagoon

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	0.9	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	1.5	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	Summer	7.5	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	Winter	12.75	mg/L	DMax Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Month	Grab	Effluent
TRC	All Year	0.02	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	40	mg/L	DMax Conc	2/Month	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Month	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Month	Grab	Effluent

**Table 6-26. Permit Limits for Pleasant Ridge Trailer Park.**

**EFO Comments:**

None

### TN0021652 Somerville Lagoon

**Discharger rating:** Minor  
**City:** Somerville  
**County:** Fayette  
**EFO Name:** Memphis  
**Issuance Date:** 6/30/02  
**Expiration Date:** 9/30/07  
**Receiving Stream(s):** Loosahatchie River at mile 46.7  
**HUC-12:** 080102090103  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Lagoon followed by overland flow treatment

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	16	mg/L	DMax Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	Summer	119	lb/day	DMax Load	Weekly	Grab	Effluent
Ammonia as N (Total)	Summer	8	mg/L	MAvg Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	Summer	12	mg/L	WAvg Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	Summer	60	lb/day	MAvg Load	Weekly	Grab	Effluent
Ammonia as N (Total)	Summer	90	lb/day	WAvg Load	Weekly	Grab	Effluent
Ammonia as N (Total)	Winter		mg/L	DMax Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	Winter		mg/L	MAvg Conc	Weekly	Grab	Effluent
Bypass of Treatment (occurrences)	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	65	Percent	MAvg % Removal	Weekly	Calculated	Percent Removal
CBOD5	All Year	40	mg/L	DMax Conc	Weekly	Grab	Effluent
CBOD5	All Year	261	lb/day	WAvg Load	Weekly	Grab	Effluent
CBOD5	All Year	35	mg/L	WAvg Conc	Weekly	Grab	Effluent
CBOD5	All Year	25	mg/L	MAvg Conc	Weekly	Grab	Effluent
CBOD5	All Year	187	lb/day	MAvg Load	Weekly	Grab	Effluent
CBOD5	All Year		mg/L	MAvg Conc	Weekly	Grab	Influent (Raw Sewage)
CBOD5	All Year	299	lb/day	DMax Load	Weekly	Grab	Effluent
CBOD5	All Year		mg/L	DMax Conc	Weekly	Grab	Influent (Raw Sewage)
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	941	#/100mL	DMax Conc	Weekly	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Overflow Use Occurences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent

**Table 6-27a.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TRC	All Year	0.24	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	120	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	896	lb/day	DMax Load	Weekly	Grab	Effluent
TSS	All Year	821	lb/day	WAvg Load	Weekly	Grab	Effluent
TSS	All Year	100	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	746	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	110	mg/L	WAvg Conc	Weekly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-27b.**

**Tables 6-27a and b. Permit Limits for Somerville Lagoon.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

- 18 CBOD
- 9 Chlorine
- 1 Dissolved Oxygen
- 24 Ammonia
- 7 TSS
- 1 Fecal coliform
- 3 pH
- 1 Settleable Solids
- 13 Overflows
- 11 bypasses

**EFO Comments:**

In February 2005, the Civil Engineering Department at the University of Memphis produced a report on the Water Quality of the Loosahatchie River. This report included 25-year growth projections for the major wastewater treatment plants along the Loosahatchie River including Arlington, Mason, Oakland, Gallaway, Lakeland, Somerville and Bartlett.



### TN0074799 Pilot Travel Centers LLC #149

**Discharger rating:** Minor  
**City:** Stanton  
**County:** Fayette  
**EFO Name:** Memphis  
**Issuance Date:** 9/30/05  
**Expiration Date:** 3/30/08  
**Receiving Stream(s):** Unnamed tributary of Muddy Creek at mile 5.0  
**HUC-12:** 080102090203  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Septic tanks, collection system, new lotous submerged - film activated sludge discharge into facultative lagoon

<b>Segment</b>	TN08010208007_0999
<b>Name</b>	Misc Tribs to Big Muddy Creek
<b>Size</b>	104.6
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed), Recreation (Not Assessed), Fish and Aquatic Life (Not Assessed)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-28. Stream Segment Information for Pilot Travel Centers.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2	mg/L	DMax Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	Summer	1	mg/L	MAvg Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	Winter	4	mg/L	DMax Conc	Monthly	Grab	Effluent
Ammonia as N (Total)	Winter	2	mg/L	MAvg Conc	Monthly	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	Monthly	Grab	Effluent
CBOD5	All Year	10	mg/L	DMin Conc	Monthly	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Escherichia coli	All Year	941	#/100mL	DMax Conc	Monthly	Grab	Effluent
Escherichia coli	All Year	126	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Settleable Solids	Summer	1	mL/L	MAvg Conc	2/Week	Grab	Effluent
TRC	All Year	0.02	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	WAvg Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-29. Permit Limits for Pilot Travel Centers.**

#### **Compliance History:**

No numbers of exceedences noted in PCS.

***EFO Comments:***

Retail travel center, Package plant.

#### 6.4.B. Industrial Permits

##### TN0000965 Air Liquide Industrial U.S. LP

**Discharger rating:** Minor  
**City:** Millington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 5/31/02  
**Expiration Date:** 2/26/07  
**Receiving Stream(s):** Mile 1.9 of a wet weather conveyance to mile 11.7 of the Loosahatchie River  
**HUC-12:** 080102090206  
**Effluent Summary:** Non-contact cooling water from Outfall 001  
**Treatment system:** -

<b>Segment</b>	TN08010209002_1000
<b>Name</b>	Loosahatchie River
<b>Size</b>	10.3
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	1990
<b>Designated Uses</b>	Fish and Aquatic Life (Non-Supporting), Recreation (Non-Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Sedimentation/Siltation, Polychlorinated biphenyls, Escherichia coli, Chlordane, Physical substrate habitat alterations, Dioxin (including 2,3,7,8-TCDD)
<b>Sources</b>	Channelization, Site Clearance (Land Development or Redevelopment), Contaminated Sediments, Discharges from Municipal Separate Storm Sewer Systems (MS4)

**Table 6-30. Stream Segment Information for Air Liquide Industrial.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Continuous	Recorder	Effluent
Flow	All Year		MGD	MAvg Load	Continuous	Recorder	Effluent
Oil and Grease (Freon EM)	All Year	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Temperature (°C)	All Year		°C	DMax Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Month	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Month	Grab	Effluent

**Table 6-31. Permit Limits for Air Liquide Industrial.**

#### **Compliance History:**

No numbers of exceedences noted.

#### **EFO Comments:**

Carbon Dioxide liquid is depressurized to form dry ice or solid carbon dioxide.

**TN0001091 E. I. DuPont De Nemours & Co., Inc. - Memphis**

**Discharger rating:** Major  
**City:** Millington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 9/12/03  
**Expiration Date:** 12/31/07  
**Receiving Stream(s):** Loosahatchie River at mile 11.8 (all Outfalls)  
**HUC-12:** 080102090206  
**Effluent Summary:** Treated process wastewater and nonprocess wastewater from Outfall 001, and storm water from Outfalls SW1, and SW3-S15  
**Treatment system:** -

<b>Segment</b>	TN08010209002_1000
<b>Name</b>	Loosahatchie River
<b>Size</b>	10.3
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	1990
<b>Designated Uses</b>	Fish and Aquatic Life (Non-Supporting), Recreation (Non-Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Sedimentation/Siltation, Polychlorinated biphenyls, Escherichia coli, Chlordane, Physical substrate habitat alterations, Dioxin (including 2,3,7,8-TCDD)
<b>Sources</b>	Channelization, Site Clearance (Land Development or Redevelopment), Contaminated Sediments, Discharges from Municipal Separate Storm Sewer Systems (MS4)

**Table 6-32. Stream Segment Information for DuPont De Nemours & Co., Inc.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	1000	lb/day	DMax Load	Weekly	Composite	Effluent
BOD5	All Year	500	lb/day	MAvg Load	Weekly	Composite	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	15	Percent	DMin Conc	Monthly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	15	Percent	DMin Conc	Monthly	Composite	Effluent
Oil and Grease (Freon EM)	All Year	30	mg/L	DMax Conc	Quarterly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	15	mg/L	MAvg Conc	Quarterly	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	2275	lb/day	DMax Load	Weekly	Composite	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Weekly	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Daily	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Daily	Grab	Effluent

**Table 6-33. Permit Limits for DuPont De Nemours & Co., Inc.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

- 4 Cyanide
- 7 TSS.

**EFO Comments:** Manufacturer of various inorganic chemicals, organic chemicals, and acrylic sheeting.

### TN0000141 PCS Nitrogen Fertilizer, L.P.

**Discharger rating:** Minor  
**City:** Millington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 6/30/05  
**Expiration Date:** 6/30/07  
**Receiving Stream(s):** Wet weather conveyance at facility to unnamed tributary to Loosahatchie River at mile 11.7  
**HUC-12:** 080102090206  
**Effluent Summary:** Treated process wastewater and nonprocess wastewater from Outfall 001, and storm water from Outfalls SW1, and SW3-S15  
**Treatment system:** -

<b>Segment</b>	TN08010209002_1000
<b>Name</b>	Loosahatchie River
<b>Size</b>	10.3
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	1990
<b>Designated Uses</b>	Fish and Aquatic Life (Non-Supporting), Recreation (Non-Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Sedimentation/Siltation, Polychlorinated biphenyls, Escherichia coli, Chlordane, Physical substrate habitat alterations, Dioxin (including 2,3,7,8-TCDD)
<b>Sources</b>	Channelization, Site Clearance (Land Development or Redevelopment), Contaminated Sediments, Discharges from Municipal Separate Storm Sewer Systems (MS4)

**Table 6-34. Stream Segment Information for PCS Nitrogen Fertilizer, L.P.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	1.8	mg/L	DMax Conc	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	1.8	mg/L	DMax Conc	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	1.8	mg/L	DMax Conc	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	1.8	mg/L	DMax Conc	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	1.1	lb/day	DMax Load	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	2.6	lb/day	DMax Load	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	0.9	mg/L	MAvg Conc	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	0.9	mg/L	MAvg Conc	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	0.56	lb/day	MAvg Load	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	2.63	lb/day	MAvg Load	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	1.31	lb/day	MAvg Load	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	0.94	lb/day	MAvg Load	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	0.9	mg/L	MAvg Conc	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	0.9	mg/L	MAvg Conc	Daily	Composite	Effluent

**Table 6-35a.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	5.25	lb/day	DMax Load	Daily	Composite	Effluent
Ammonia as N (Total)	All Year	1.9	lb/day	DMax Load	Daily	Composite	Effluent
CBOD5	All Year	265	mg/L	DMax Conc	Weekly	Composite	Effluent
CBOD5	All Year	28	mg/L	MAvg Conc	Weekly	Composite	Effluent
CBOD5	All Year	57	mg/L	MAvg Conc	Weekly	Composite	Effluent
CBOD5	All Year	80	mg/L	MAvg Conc	Weekly	Composite	Effluent
CBOD5	All Year	114	mg/L	DMax Conc	Weekly	Composite	Effluent
CBOD5	All Year	47	mg/L	DMax Conc	Weekly	Composite	Effluent
CBOD5	All Year	159	mg/L	DMax Conc	Weekly	Composite	Effluent
CBOD5	All Year	133	mg/L	MAvg Conc	Weekly	Composite	Effluent
D.O.	All Year	5	mg/L	DMin Conc	Weekly	Grab	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Semi-annually	Grab	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Semi-annually	Grab	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Semi-annually	Grab	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Semi-annually	Grab	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Semi-annually	Grab	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Semi-annually	Grab	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Semi-annually	Grab	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Semi-annually	Grab	Effluent
Oil and Grease (Freon EM)	All Year	30	mg/L	DMax Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	13	mg/L	DMax Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	18	mg/L	DMax Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	24	mg/L	MAvg Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	10	mg/L	MAvg Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	5	mg/L	MAvg Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	14	mg/L	MAvg Conc	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	7	mg/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.019	mg/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	0.011	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	128	mg/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	77	mg/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	55	mg/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	96	mg/L	MAvg Conc	Weekly	Composite	Effluent
TSS	All Year	41	mg/L	MAvg Conc	Weekly	Composite	Effluent
TSS	All Year	21	mg/L	MAvg Conc	Weekly	Composite	Effluent
TSS	All Year	58	mg/L	MAvg Conc	Weekly	Composite	Effluent
TSS	All Year	27	mg/L	DMax Conc	Weekly	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Weekly	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekly	Grab	Effluent

**Table 6-35b.**

**Tables 6-35a-b. Permit Limits PCS Nitrogen Fertilizer, L.P.**

**Compliance History:**

No numbers of exceedences noted.

***EFO Comments:***

Production of nitrogenous fertilizers

### TN0078671 Pilot Travel Centers LLC #149

**Discharger rating:** Minor  
**City:** Stanton  
**County:** Fayette  
**EFO Name:** Memphis  
**Issuance Date:** 7/29/05  
**Expiration Date:** 11/30/07  
**Receiving Stream(s):** unnamed tributary to Little Cypress Creek  
**HUC-12:** 080102090203  
**Effluent Summary:** runoff wastewater from diesel islands from Outfall 001  
**Treatment system:** oil and water separator

<b>Segment</b>	TN08010208032_1000
<b>Name</b>	Cypress Creek
<b>Size</b>	19.2
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	2002
<b>Designated Uses</b>	Recreation (Not Assessed), Irrigation (Supporting), Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Sedimentation/Siltation, Oxygen, Dissolved
<b>Sources</b>	Non-irrigated Crop Production

**Table 6-36. Stream Segment Information for Pilot Travel Centers LLC#149.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Benzene	All Year		mg/L	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Monthly	Instantaneous	Effluent
Oil and Grease (Freon EM)	All Year		mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year		mg/L	DMax Conc	Monthly	Grab	Effluent
pH	All Year		SU	DMin Conc	Monthly	Grab	Effluent
pH	All Year		SU	DMax Conc	Monthly	Grab	Effluent

**Table 6-37. Permit Limits for Pilot Travel Centers LLC#149.**

#### **Compliance History:**

No numbers of exceedences noted.

#### **EFO Comments:**

Retail travel center



#### 6.4.B. Water Treatment Plant Permits

##### TN0078590 Memphis LG&W-LNG Pumping Station WTP

**Discharger rating:** Minor  
**City:** Arlington  
**County:** Shelby  
**EFO Name:** Memphis  
**Issuance Date:** 3/18/05  
**Expiration Date:** 9/27/09  
**Receiving Stream(s):** Unnamed tributary at mile 0.5 to Loosahatchie River at mile 26.4  
**HUC-12:** 080102090302  
**Effluent Summary:** -  
**Treatment system:** Iron Removal WTP. 1.0 PPM each of chlorine, fluoride, and polyphosphate added to finished water.

<b>Segment</b>	TN08010209004_1000
<b>Name</b>	Loosahatchie River
<b>Size</b>	10
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	2004
<b>Designated Uses</b>	Recreation (Supporting), Irrigation (Supporting), Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Physical substrate habitat alterations
<b>Sources</b>	Channelization

**Table 6-38. Stream Segment Information for Memphis LG&W-LNG Pumping Station WTP.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Fe (T)	All Year	2	mg/L	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	mL/L	DMax Conc	Monthly	Grab	Effluent
TRC	All Year	0.019	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	40	mg/L	DMax Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Monthly	Grab	Effluent

**Table 6-39. Permit Limits for Memphis LG&W-LNG Pumping Station WTP.**

#### **EFO Comments:**

Iron Removal WTP. No plans for expansion.

### TN0058815 Poplar Grove Utility District WTP

**Discharger rating:** Minor  
**City:** Atoka  
**County:** Tipton  
**EFO Name:** Memphis  
**Issuance Date:** 9/27/04  
**Expiration Date:** 9/28/09  
**Receiving Stream(s):** Big Creek at mile 22.1  
**HUC-12:** 080102090401  
**Effluent Summary:** Filter backwash and/or sedimentation basin washdown from Outfall 001  
**Treatment system:** Iron removal using hydrated lime, liquid polymer and chlorine

<b>Segment</b>	TN08010209021_3000
<b>Name</b>	Big Creek
<b>Size</b>	35.1
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Livestock Watering and Wildlife (Not Assessed), Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-40. Stream Segment Information for Poplar Grove Utility District WTP.**

<b>Parameter</b>	<b>Season</b>	<b>Limit</b>	<b>Units</b>	<b>Sample Designator</b>	<b>Monitoring Frequency</b>	<b>Sample Type</b>	<b>Monitoring Location</b>
Al (T)	All Year	0.75	mg/L	DMax Conc	Monthly	Grab	Effluent
Fe (T)	All Year	2	mg/L	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	mL/L	DMax Conc	Monthly	Grab	Effluent
TRC	All Year	0.019	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	40	mg/L	DMax Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Monthly	Grab	Effluent

**Table 6-41. Permit Limits for Poplar Grove Utility District WTP.**

**EFO Comments:**

Iron removal WTP. No plans for expansion.